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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RIMELL, SAMUEL G

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,611

Applicant(s)

BERNARD, NIVELET

Examiner

Sam Rimell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-46 and 53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 35-46 and 53 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

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Preliminary Note: On March 3, 2004, an interview was conducted with applicant's representative, which led to the presentation of the amendment after final rejection dated March 9, 2004. The amendment complies with the suggestions of the examiner in the interview.

Upon reconsideration, the Examiner finds that the amendments submitted do not overcome certain features of the Depledge reference for reasons set forth in detail as follows. Since applicant's amendment of 3/9/04 was fully responsive to the interview of March 3, 2004, the amendment will be entered. The finality is vacated and the present office action has been made non-final.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 35-46 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Depledge et al. (U.S. Patent 5,899,988).

Claim 35: FIG. 1 of Depledge discloses a first data table. FIG. 2A and 2B illustrate a method by which the first data table can be preconditioned by the creating of indexes to permit more rapid searching of the first table. The method involves analyzing each of the predicates in the table (The predicates are "North", "South", "East", "West", "Business" and "Individual") by separating these predicates into individual bitmap indexes (FIG. 2A and FIG. 2B).

The predicates have an “ordinal relationship” (i.e. a specific order) in the original data table (FIG. 1). For example, the ordinal relationship of the predicates in FIG. 1 is EAST→NORTH→WEST→EAST→SOUTH→NORTH.

A nomenclature is used, which are rules for converting predicates into numbers. The nomenclature, or rules for converting, call for each instance of the predicate in a row of the first data table to be indicated by the number “1”, and each instance of the predicate missing from a row in the data table to be indicated by “0”. By this nomenclature, each predicate is numerically encoded, and the encoded predicates form multiple second data tables (FIGS. 2A and 2B).

The encoding of the columns from left to right in FIGS. 2A and 2B preserve the ordinal relationship of the rows data table in FIG. 1. For example, the first column in FIG. 2A has a “1” for the predicate “EAST”. Thus, “EAST” appears in the first row of FIG. 1. Similarly, in the second column of FIG. 2A, a “1” appears for the predicate “North”. Thus, the predicate “North” appears in the second row of FIG. 1. The columns of the encoded bitmaps thus maintain the order of the rows of the data table in FIG. 1.

Claim 36: The nomenclature illustrated in FIGS. 2A and 2B creates an association between the predicates and the numerical values. The predicates become replaced with the numerical values, as seen in the tables of FIGS. 2A and 2B. In addition, certain predicates in FIG. 1 follow an alphabetical ordinal relationship. For example, the ordinal relationship BUSINESS→INDIVIDUAL seen in the first two rows of FIG. 1 is alphabetical.

Claim 37: The second data tables (FIGS. 2A and 2B) are compacted in comparison to the first data table (FIG. 1) in that they have fewer rows.

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Claim 38-40: Each of the rows of binary digits in FIGS. 2A and 2B reads as a vector. Since the system of Depledge et al. will process these vectors during search queries, the system of Depledge et al. is considered to be a system with “vectorial capabilities”.

Claim 41: Reference is made to FIG. 3. A query is received in the system that includes the plaintext predicates “Business”, “East” and “South”.

In FIGS. 1, the predicates are plaintext and are arranged in an ordinal relationship (i.e. a specified order) in the original data table and in the indexes. For example, the ordinal relationship EAST→NORTH→WEST→EAST→SOUTH→NORTH appears in FIG 1.

The query in FIG.3 is presented for the purpose of searching the first table (FIG. 1). The query is numerically encoded in accordance with a nomenclature that calls for each instance of the predicate in a row of the first table to be indicated by a “1”, and each instance of a predicate missing from a row in the first table to be indicated by “0”. The encoded predicates are processed in accordance with a second table (The query table of FIG. 3 reads as this second table).

The columns of the encoded predicates in FIGS. 2A and 2B maintain the ordered sequence (ordinal relationship) of the rows of predicates in FIG. 1.

Claim 42: In FIG. 3, each plaintext predicate in the query is transformed into a row of binary digits. Certain alphabetical orders are retained. For example, the first two rows of FIG. 1 are BUSINESS→INDIVIDUAL, which is alphabetical. This order is preserved by the first two columns of the bitmap in FIG. 2B. The row of digits reads as a vector. These vectors represent the values found in the second table (FIG. 3).

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Claim 43: In the table of FIG. 3, each of the vectors are compared to each of the other lines of the table. The coincidences between the vectors are calculated and a result record is returned (302) which is a new vector corresponding to the search result.

Claim 44: The returned record (302) is translated back into plain text to indicate the results of the query.

Claim 45: The result (302) is a set of numbers. A set of numbers reads as a “statistical form”.

Claim 46: See remarks for claim 40.

Claim 53: See remarks for claim 35. The “collated sequence” is considered to be the same as the “ordinal relationship” described in claim 35.

Remarks

Applicant's amendment after final rejection of 3/9/04 is a bona fide attempt to advance prosecution in response to the interview 3/3/04. Accordingly, the finality is vacated and this office action is made non-final.

Upon reconsideration, Examiner finds that the columns of the encoded predicates in FIGS 2A and 2B maintain the sequential order of rows of the predicates in FIG. 1, when the columns are read left to right.

For example, the left most column in FIG. 2A has a “1” bit for the predicate “EAST”. EAST will therefore appear in the first row of the data table. The second column from the left in FIG. 2A has a “1” bit for the word “NORTH”. The predicate “NORTH” thus appears in the second row of the table in FIG. 1.

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Accordingly, while a given individual row of the bitmap index does not maintain the ordinal relationship of the data table of FIG.1, it is apparent that the columns of the bitmap do in fact maintain the ordinal relationship of the rows of FIG. 1. As a result, the claims do not distinguish from Depledge et al. by stating that the encoded bitmap maintains an ordinal relationship. The columns of the bitmap do in fact maintain the ordinal or collated relationship of the data table.

Any inquiry concerning this communication should be directed to Sam Rimell at telephone number (703) 306-5626.



Sam Rimell
Primary Examiner
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